

**BY ORDER OF THE COMMANDER
MACDILL AIR FORCE BASE**

**MACDILL AIR FORCE BASE
INSTRUCTION 91-212**

8 NOVEMBER 2011

Safety



**MACDILL AIR FORCE BASE BIRD
AIRCRAFT STRIKE HAZARD (BASH)
PROGRAM**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction provides a base program to minimize aircraft exposure to potentially hazardous wildlife strikes. It implements Air Force Instruction (AFI) 91-202, *US Air Force Mishap Prevention Program*. The 6th Air Mobility Wing, Flight Safety Office (6 AMW/SEF), is the Office of Primary Responsibility (OPR) for this instruction and will complete an annual review by 1 November. The Commander, 6th Air Mobility Wing (6 AMW/CC), is responsible for implementation of this instruction. All records created as a result of processes prescribed in this publication will be maintained in accordance with Air Force Manual (AFMAN) 36-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at https://www.my.af.mil/afrims/afrims/afrims/rds/rds_series.cfm. Refer recommended changes and questions about this publication to the OPR using the Air Force (AF) Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command.

1. Bird Aircraft Strike Hazard (BASH) Program Information.

1.1. Situation. The MacDill Air Force Base (AFB) BASH threat comes from a wide range of resident and migratory bird species. While BASH is a worldwide challenge, this instruction primarily focuses on the MacDill AFB area. While there is no way to eliminate BASH, this instruction establishes procedures to mitigate risks.

1.2. Applicability. This instruction applies to all 6 AMW, 927th Air Refueling Wing (927 ARW), and temporary duty (TDY) organizations on MacDill AFB.

2. Responsibilities.

2.1. The Vice Commander (6 AMW/CV) will:

2.1.1. Chair the Bird Hazard Working Group (BHWG) meetings and approve/disapprove recommendations from the group.

2.1.2. Direct actions as necessary to manage BASH.

2.2. Wing Safety (6 AMW/SE) will:

2.2.1. Facilitate BHWG meetings.

2.2.2. Prepare and maintain the basic plan and changes to this document at least annually.

2.2.3. Establish a bird awareness program in conjunction with squadron flying safety officers. The program can include films, posters, information on bird hazards, reporting procedures, and operating restrictions.

2.2.4. Establish procedures for reporting and recording all bird strikes at MacDill AFB involving 6 AMW, 927 ARW, and tenant aircraft.

2.2.5. Collect information on migrations of local and seasonal bird activities through 6th Civil Engineer Squadron, Environmental (6 CES/CEV), local, state, and private wildlife authorities.

2.2.6. Collect bird strike data from all MacDill AFB flying units and look for trends. Disseminate hazard data and metrics to BHWG and flying units from all available sources.

2.2.7. Coordinate and establish procedures for disseminating and terminating BIRD WATCH Conditions (BWC).

2.2.8. Coordinate with aircrews, maintenance, and Wildlife Control to ensure a blood specimen and/or portion of the non-fleshy bird remains are taken from the aircraft or airfield after a bird strike. Identify bird or animal remains locally if expertise is available. Send blood specimens, Deoxyribonucleic Acid (DNA), and/or feather fragments of all bird strikes to the Smithsonian Institution, Natural History Building, Division of Birds, Attn: Carla Dove, NHBE 610 MRC 116, 10th & Constitution Ave NW, Washington D.C. 20560.

2.2.9. Ensure that all bird strikes are entered into the Air Force Safety Center (AFSC) Air Force Safety Automated System (AFSAS).

2.2.10. Hold quarterly meetings with Airfield Management and BASH personnel to advise and request changes to BASH policies and procedures.

2.2.11. Perform duties as Quality Assurance Evaluator (QAE) for Wildlife Control Contractor (6 AMW/SEFB).

2.2.12. Perform duties as the funding acceptor for Wide Area Work Flow.

2.3. Public Affairs (6 AMW/PA) will:

2.3.1. Be the releasing authority on any information to news media representatives, the MacDill AFB community, and/or general public.

2.3.2. Respond to any queries from news media representatives or general public concerning bird strikes, major changes in operations, or pending projects to control bird populations or reduce potentially hazardous bird strikes.

2.4. The Command Post (6 AMW/CP) will:

2.4.1. Notify 6th Operations Group Commander (6 OG/CC), 91st Air Refueling Squadron, Director of Operations (91 ARS/DO), 310th Airlift Squadron, Squadron Operations Center (310 AS/SOC), 6 AMW/SE, and 6th Maintenance Operations Squadron, Maintenance Operations Center (6 MOS/MOC), as changes in BIRD WATCH status occur and flying is adversely affected (as directed by CP Quick Reaction Checklist (QRC) 104).

2.4.2. Notify personnel and organizations enumerated in MacDill CP QRC 105 when actual bird-aircraft strikes occur regardless of the source (aircrew, maintenance, etc.), then run appropriate checklist.

2.4.3. For after-hours bird strikes, notify the on-call Flight Safety representative or 6 AMW Chief of Flight Safety as soon as possible after notification of the incident.

2.5. 6 OG/CC and 927 OG/CC will:

2.5.1. Issue specific guidance to 6 AMW/CP concerning actions required to implement the BASH Plan.

2.5.2. Act as approval authority in accordance with paragraph 4.4.2. for:

2.5.2.1. All flights during Bird Watch Condition (BWC) SEVERE.

2.5.2.2. All flights scheduled during BASH Phase II window.

2.5.3. Be the only authority or designated representative to degrade BWC out of SEVERE.

2.5.4. Ensure all MacDill AFB assigned aircrew participate in the BASH program by promptly reporting bird-aircraft strike conditions.

2.6. All Department of Defense (DoD) aircrews will:

2.6.1. Report all bird-aircraft strike(s) to tower and Command Post as soon as possible.

2.6.1.1. Report all strikes and concentrated or unusual bird activities as follows:

2.6.1.1.1. On airfield, report to the 6th Operations Support Squadron, Airfield Manager (6 OSS/OSAA), or tower/ground controller.

2.6.1.1.2. On departure or arrival, report to controlling agency, tower, or command post, time permitting.

2.6.1.1.3. In Military Operating Areas (MOA) and warning areas, report to 6 AMW/CP when in radio range or relay by telephone patch when out of range.

2.6.1.1.4. Report the following information: Call sign, location, altitude, local time of sighting, approximate number of birds, type of birds (if known).

2.6.1.1.5. Following a known or suspected bird strike; **do not take aircraft through the birdbath** to ensure that remains are not washed from the aircraft.

2.7. 91 ARS Flight Safety (91 ARS/SEF), 310 AS Flight Safety (310 AS/SEF), and 927 ARW Flight Safety (927 ARW/SE) will:

2.7.1. Ensure aircrews report all bird-aircraft strikes to Wing Flight Safety immediately after landing, including off-station. KC-135 crews will report bird strikes and complete the AF Form 853, *Air Force Wildlife Strike Report*, through maintenance debrief. Individual C-37 crews are responsible for completing the AF Form 853 since they do not perform maintenance debriefs through the 6th Aircraft Maintenance Squadron, Debrief Section (6 AMXS/MXAS). 6 AMXS/MXAS or C-37 aircrews will facsimile (FAX) completed AF Form 853 to the Wing Safety Office, Commercial 813-828-6794, DSN 968-6794, and the 6th Maintenance Group, Quality Assurance Office (6 MXG/MXQ), Commercial 813-828-2126, DSN 968-2126, as soon as possible after the bird-aircraft strike(s).

2.7.2. Ensure aircrews are briefed on seasonal bird hazards.

2.7.3. Coordinate with Standardization and Evaluation (6 OG/OGV) to ensure current bird activity data is available and briefed, as necessary, for each phase of flight. Coordinate with Operations Training (6 OSS/OST) to establish criteria to assist Airfield Management (6 OSS/OSAA), Wildlife Control (6 AMW/SEFB), and Air Traffic Control Tower (6 OSS/OSAT) in declaring a BWC. Assist 6 AMW/SEF in retrieving data for BASH metrics.

2.8. Flight Scheduling (6 OSS/OSOS) will:

2.8.1. Obtain approval from the 6 OG/CC for appropriate flights during Phase II in accordance with paragraph 4.4.2.

2.8.2. Annotate appropriate flights on the cover of the flying schedule during Phase II in accordance with paragraph 4.4.2.

2.9. Wildlife Control (6 AMW/SEFB) will:

2.9.1. 6 AMW/SEFB is the primary executor of ALL wildlife dispersal efforts at MacDill AFB in accordance with their Performance Work Statement. They report directly to 6 AMW/SEF who is the OPR for wildlife control activities. The contractor will meet with 6 AMW/SEF periodically to discuss the BASH program for MacDill AFB.

2.9.2. Receive reports of bird activity from any source.

2.9.2.1. Declare or downgrade BWC/BW Alert in accordance with paragraph 4.2.

2.9.2.2. Notify 6 OSS/OSAT and 6 OSS/OSAA of BWC changes and bird strikes.

2.9.3. Monitor conditions during airfield inspections that might present a bird strike hazard. Inspections will normally take place in BASH areas A, B, and C (annotated in **Attachment 2**, BASH Inspection Areas). Immediate hazards will be reported to 6 OSS/OSAA and 6 AMW/SEF during periods of normal flying operations. Airfield Management Operations will then coordinate the BWC with the 6 OSS/OSAT.

2.9.4. Observe environmental conditions in the runway vicinity that could attract birds and report them to 6 AMW/ SEF quarterly.

2.9.5. Conduct bird dispersal in accordance with this instruction and Air Force Pamphlet (AFPAM) 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Techniques*, utilizing the following mitigation methods when required:

2.9.5.1. Harassment. Make the airfield stressful and inhospitable for unwanted bird species through the use of canines without damaging any protected wetland habitat.

2.9.5.2. Depredation. Studies show that wildlife becomes accustomed to harassment techniques that are used over a period of time. In order to associate harassment techniques with mortality, at times it may become necessary to use depredation techniques to ensure harassment techniques remain effective.

2.9.5.3. Pyrotechnic equipment (pistols with 12 gauge insert, airburst shells, and 12 gauge scare cartridges) and any other bio-acoustic pyrotechnic equipment necessary for bird control. Personnel assigned will maintain proficiency on above devices.

2.9.5.4. Remote-controlled vehicles.

2.9.6. Collect data concerning bird activity and provide a migratory survey and monthly reports of this activity to 6 AMW/SE.

2.9.6.1. Bird Data Collection. Information on birds gathered empirically by 6 AMW agencies and Florida Fish and Wildlife, such as the following, aids in minimizing exposure to bird activity:

2.9.6.1.1. Number and type of bird flights.

2.9.6.1.2. Approximate time of flights.

2.9.6.1.3. Types of control methods used.

2.9.6.1.4. Result of those activities.

2.9.6.1.5. Types and number of animals killed.

2.9.6.1.6. Suggestions for habitat management.

2.9.6.1.7. Any other information pertinent to MacDill AFB flying safety.

2.9.7. Notify 6 OSS/OSAA (Airfield Management) before beginning any off-duty period to ensure positive transfer of responsibility for dispersal efforts in accordance with paragraph 2.10.7.

2.10. 6 OSS/OSAA will:

2.10.1. Declare or downgrade BWC/BW Alert in accordance with paragraph 4.4.2.

2.10.1.1. Notify Command Post of BWC changes and bird strikes.

2.10.2. Monitor conditions during airfield inspections that might present a bird strike hazard. Inspections will normally take place in BASH areas A and B (annotated in [Attachment 2](#)). Immediate hazards will be reported to the 6 AMW/CP during periods of normal flying operations. Airfield Management Operations will then coordinate BWC with the 6 OSS/OSAT.

2.10.3. Receive reports of bird activity from any source.

2.10.4. Issue airfield BWC advisories as declared. Also, issue a local Notice to Airmen (NOTAM) when a BW Alert is activated to include time window for the alert, if available, and reason (i.e., mowing operations, migration period, sunrise/sunset activity, etc.).

2.10.5. Record unusual bird activity or bird-aircraft strike(s) by transient aircrews and report this information to 6 AMW/SEF.

2.10.6. Observe environmental conditions in the runway vicinity that could attract birds and report them to Pest Management QAE (6 CES/CEOHHE), Commercial 813-828-2991, DSN 968-2991.

2.10.7. Airfield Management (6 OSS/OSAA) will be the OPR for bird dispersal when 6 AMW/SEFB is not on duty. Conduct bird dispersal in accordance with this instruction and AFPAM 91-212, utilizing the following mitigation methods when required:

2.10.7.1. Harassment. Use pyrotechnic equipment (pistols with 12 gauge insert, airburst shells, and 12 gauge scare cartridges) and any other bio-acoustic pyrotechnic equipment necessary for bird control. Personnel assigned will maintain proficiency on above devices.

2.10.7.2. Grounds maintenance. Airfield grass height will be maintained to a minimum of 7 inches and a maximum of 14 inches to discourage bird activity and habitation. The BHWG will establish and review airfield-designated boundaries as required. During the rainy season, grass is allowed to exceed 14 inches in low-lying areas when the mowers create ruts on the airfield. At the end of the rainy season, grounds maintenance will reinstitute normal grass cutting procedures.

2.10.7.3. Habitat modification. Meetings and conversations will continue with local Fish and Wildlife representatives, Base Civil Engineer, Base Agronomist, and Environmental Management to discourage activities that attract birds to the local area. These include, but are not limited to, seed crop planting in fields around approach and departure corridors, landfill operations, and industrial operations that create standing water.

2.10.7.4. Depredation. Studies show that wildlife becomes accustomed to harassment techniques that are used over a period of time. In order to associate harassment techniques with mortality, at times it may become necessary to use depredation techniques to ensure harassment techniques remain effective.

2.10.7.5. Collect data concerning bird activity and provide a migratory survey and monthly reports of this activity to 6 AMW/SE.

2.10.7.5.1. Bird Data Collection. Information on birds gathered empirically by MacDill AFB agencies and Florida Fish and Wildlife, such as the following, aids in minimizing exposure to bird activity:

2.10.7.5.1.1. Peak concentration by species of bird.

2.10.7.5.1.2. Radar and visual sighting by time of day.

2.10.7.5.1.3. Bird aircraft strike incidents at MacDill AFB.

2.10.7.5.1.4. Weather conditions.

2.10.7.5.1.5. Bird flying activity (soaring, transitioning, feeding, etc.).

2.11. 6 OSS/OST (Operations Training) will:

2.11.1. Issue specific guidance for 6 AMW aircrews on procedures to be followed under BWC on the airfield in accordance with Air Mobility Command, Directorate of Operations (AMC/A3) guidance.

2.11.2. Publish BASH considerations and guidance in AFI 11-2KC-135V3_MACDILLAFBSUP, *C/KC-135 Operations Procedures*, for BWC.

2.11.3. Coordinate with Standardization and Evaluation (6 OG/OGV) to ensure BASH procedures are covered during aircrew flight briefings as necessary.

2.12. 6 OSS Control Tower (6 OSS/OSAT) will:

2.12.1. Declare or downgrade a BWC or BW Alert in accordance with paragraph 4.2.

2.12.2. Remain alert for bird activity on, over, or near the airfield.

2.12.3. Inform Tampa Approach Control and Airfield Management Operations of bird activity and changes in the BWC.

2.12.4. Include the BIRD WATCH information in the Airport Terminal Information System (ATIS) broadcast.

2.12.5. Relay verbatim any instructions from the Command Post to aircraft under their control (i.e., divert or holding instructions).

2.12.6. Provide 6 AMW/SEFB and 6 OSS/OSAA personnel access to the runway during BIRDWATCH conditions in line with safe aircraft operations if bird dispersal is necessary.

2.12.7. Notify Airfield Management Operations when aircraft are conducting practice approaches at MacDill (instrument flight rules (IFR) and visual flight rules (VFR)). This includes all aircraft (base assigned or transient).

2.12.7.1. Notify Airfield Management Operations 10 minutes prior to the first aircraft beginning approach and again when the last aircraft has departed the area.

2.12.8. Notify mowers operating near the runway (BASH Inspection Areas A and B on Attachment 2) five minutes prior, or as soon as possible thereafter, of any aircraft arrival and/or departure. If the aircraft is a full stop arrival or a departure outbound, all mowers will be directed to cease operations near the runway and move toward Taxiway G (if on the ramp side) or the tree line (if on the Tower side) to a distance at least 200 feet away from the runway edge and turn off all mowers until advised that mowing operations may resume. If arriving or departing aircraft will conduct multiple approaches, Tower will advise the mowers of approximate delay due to pattern work. If lengthy (TBD by mower operator), mowers will concentrate their efforts on parts of the airfield outside of 200 feet of the runway and away from the arrival/departure corridors. These procedures will mitigate the hazard associated with birds following the mowers to prey on insects stirred up by the mowers.

2.13. 6th Maintenance Group, Quality Assurance (6 MXG/MXQ), and Gulfstream C-37 Contract Maintenance.

2.13.1. 6th Aircraft Maintenance Squadron (6 AMXS) will:

2.13.1.1. Ensure Wing Safety has the opportunity to investigate any damaging bird strikes before clean up and repair.

2.13.1.2. Make arrangements to gather and preserve evidence of blood smears and/or non-fleshy remains of bird strike(s) until Squadron or Wing Safety assumes responsibility of it in accordance with this instruction.

2.13.1.3. Ensure any evidence of a bird-aircraft strike found after the crew has departed is forwarded promptly to maintenance debrief. 6 AMXS will forward evidence to 6 AMW/SEF as soon as possible. If maintenance personnel notice a bird strike that was not reported by the aircrew, they must notify the Maintenance Operation Center immediately.

2.13.1.4. Determine initial cost estimates and damages caused by the bird strike and forward information to Wing Safety.

2.14. Maintenance Debrief (6 AMXS/MXAS) will:

2.14.1. Ensure aircrew(s) completes an AF Form 853 when evidence indicates bird-aircraft strike(s) have occurred, and maintain a copy for records.

2.14.2. Forward any evidence of bird-aircraft strikes obtained (including copies of photos taken) to 6 AMW/SEF.

2.14.3. Forward completed AF Form 853 to 6 AMW/SEF at 6amw.sef@us.af.mil (preferred method) or FAX Commercial 813-828-6794, DSN 968-6794, and Quality Assurance Office (6 MXG/MXQ) as soon as possible.

2.15. 6th Civil Engineer (6 CES) will:

2.15.1. Provide an environmental officer to the BHWG to monitor, correct, and advise the group on environmental conditions to improve the BASH program and reduce BASH potential.

2.15.2. Provide devices to eliminate specific habitats and conditions that contribute to bird populations in the airfield environment.

2.15.2.1. Control Birds. Control of bird populations in structures is provided by a contracted service administered by Pest Management QAE (6 CES/CEOHHE). Personnel will remove nuisance birds and nesting materials in hangars, warehouses, office buildings, etc. Proper permitting and approval will be required if the nest or birds are a state or federally protected species.

2.15.2.2. Control Vegetation and Insects. Control of vegetation and insects is provided by a contracted service administered by Quality Assurance Personnel (6 CES/CEQ). Personnel will be responsible for mowing operations and removing taxiway edge effect. Contractor will coordinate with Flight Scheduling to ensure mowing will be conducted during periods of non-flying operations. Grass height should be maintained between 7 and 14 inches.

- 2.15.2.3. Control Water. Control of water is provided by Equipment Flight (6 CES/CEOH). Personnel must obtain authorization from 6 CES/CEVN prior to filling in or draining low spots that accumulate water. Personnel will also align and clean ditches to ensure drainage, and install culverts as needed.
- 2.15.2.4. Control Waste. The collection and removal of refuse on base is provided by 6 CES/CEQ and a contracted service administered by the Quality Assurance Evaluation Flight (6 CES/CEQ). CEQ will ensure waste is collected appropriately and disposed of rapidly.
- 2.16. The Natural Resources Manager (6 CES/CEV) will:
- 2.16.1. Coordinate and obtain necessary permits and/or licenses for sensitive environmental issues (wetlands, mangroves, lethal bird control, etc.). Appropriate agencies, to include Wing Safety and Public Affairs, will be notified.
- 2.16.2. Provide data to Wing Safety concerning bird migration periods and bird activity at least quarterly.

3. Specific Hazards.

- 3.1. General: Specific bird hazards and hazard reduction plans for the MacDill AFB area include:
- 3.2. Turkey vulture (*Cathartes aura*) and black vulture (*Coragyps atratus*).
- 3.2.1. Hazard: This species is the most serious threat to aircraft operations at MacDill AFB. This dense and heavy species (average 3-4.3 pounds) can be seen soaring in a circular motion in numbers from one to a few hundred over open areas of the flight line. They soar at altitudes of 50 to 3000 feet. Turkey vultures are carrion feeders and circle the flight line searching for food. This primary threat comes from small to large flocks circling the runway approaches and other open areas of the pattern, especially during early to late afternoon during the months of October to February.
- 3.2.2. Hazard Reduction: The airfield and other open areas of the pattern should be closely monitored for their activity and appropriate advisories should be transmitted as required. During the months of October through February, flying during early to late afternoon should be done only after checking for the presence of flocks in the open areas of the pattern. Every effort should be taken to check the airfield every morning for dead animals. Birds circling over a specific area provide a common visual indication of where a possible dead animal may be found. All dead trees and unneeded manmade structures should be removed from the airfield.
- 3.3. Brown Pelican (*Pelecanus occidentalis*).
- 3.3.1. Hazard: This protected species can be seen frequently on the catwalk of the approach lighting for runway 04 and in the drainage ditches near taxiway H. It also flies in small flocks (3-6 birds) in varied formations. Pelicans feed primarily on small fish and dive from altitudes of 30 feet or less. The primary threat occurs when the small flocks transit the runway approaches and departures in search of food.
- 3.3.2. Hazard Reduction: The approaches should be closely monitored for their activity and appropriate advisories should be transmitted as required. Positive measures such as

the removal of vegetation in the drainage ditches must be employed. Constant surveying by aircrews, airfield management, and tower personnel is imperative.

3.4. Gulls (*Charadriiformes laridae*).

3.4.1. Hazard: This species provides the second largest threat to flight operations in the airfield area. Several subfamilies are permanent residents of the bay area as well as a migratory hazard. Gulls are primarily scavengers and gather at garbage dumps, ducts, and other lucrative sources of food. They have a relatively slow wing beat that affects their maneuverability and they cannot accurately judge the descent path of an aircraft. This combination leads to most bird strikes occurring on takeoffs and landings. In addition, their movements from roost, to food source, to loafing areas constitute hazards.

3.4.2. Hazard Reduction: Habitat modification and control techniques must be devised to effectively reduce the threat.

3.4.2.1. The source of easy food and fresh drinking water near loafing areas within the general airfield area must be reduced to an absolute minimum. Sanitary landfill operations must be closely monitored as they are a major attractor and food source. Every consideration must be given to controlling insects and vegetation both through the use of chemicals and a vigorous mowing program. (OPR: 6 CES/CEO)

3.4.2.2. Once the food source is eliminated, action will be taken daily to reduce the attraction of the loafing areas such as clearing ramp space and closely mowing fields. Dispersal procedures, such as pyrotechnics and bioacoustics, will be used as appropriate. If birds are unresponsive to dispersal techniques, consider the use of depredation. These same techniques will be vigorously employed during BWC MODERATE and SEVERE. (OPR: 6 AMW/SEFB)

3.5. Resident Waterfowl (Hérons, Egrets, Ibises, Storks, Ducks, and Cormorants).

3.5.1. Hazard: These species are attracted to the drainage ditches on the airfield. The emergent and submerged vegetation provides areas for feeding, nesting, and shelter. Their movement from the shore areas to the drainage ditches on the airfield constitutes the primary hazard. They have a flight characteristic very similar to gulls. Due to the location of their feeding areas, they are primarily found adjacent to the arrival end of runway 04, Mole Hole area, and connecting taxiways.

3.5.2. Hazard Reduction: Removing vegetation and perch areas adjacent to ditches will significantly reduce waterfowl numbers. Pyrotechnics are excellent control techniques.

3.6. Other resident species in the immediate area that are being studied as needed include raptors, owls, nighthawks, doves, crows, shorebirds, plovers, pipers, upland species, blackbirds, and starlings.

4. Operations.

4.1. Reporting Procedures. All personnel discovering a bird-aircraft strike will notify Wing Safety and Command Post as soon as possible. This is required to ensure that evidence is preserved in order to identify the bird species involved. The only identification features that should be preserved are blood smears and non-fleshy remains (feathers, feet, or beaks). During non-duty hours, maintenance and Airfield Management Operations personnel will

make arrangements for the preservation of evidence until Wing Safety assumes responsibility for it.

4.1.1. The aircrew involved will complete an AF Form 853 providing as much information as possible concerning the circumstances of the incident. Forms will be turned in to Maintenance Debrief or directly turned in to Wing Safety.

4.1.2. Maintenance Debrief will transmit all AF Forms 853 to 6 AMW/SEF at 6amw.sef@us.af.mil (preferred method) or FAX at Commercial 813-828-6794, DSN 968-6794.

4.1.3. Airfield Management Operations personnel will assist transient aircrews in completing AF Forms 853, as applicable.

4.1.4. Command Post will run appropriate checklists and provide a copy of all bird strike related Operational Report 3 (OPREP-3) reports to Wing Safety.

4.1.5. The Wing Safety Office will maintain a historical database of bird-aircraft strike(s) in their area of influence. This information will be compiled and reviewed regularly in order to determine the current hazard and appropriate operational risk management (ORM) measures.

4.1.6. The Wing Safety Office will up-channel bird-aircraft strike data in accordance with AFI 91-204, *Safety Investigations and Reports*.

4.1.7. This operation establishes procedures to be used for the immediate exchange of information between ground agencies and aircrews concerning the existence and location of birds that could pose a hazard to flight.

4.2. Bird Watch Condition. The following terminology will be used for rapid communications to disseminate bird activity and implement unit operational procedures. Bird locations should be given with condition code (i.e., Condition Severe, runway 04, approach end). **Note:** It is apparent that some subjectivity may be involved in declaring a BWC. Further, it cannot be overstressed that the use of numbers (5 to 15 large birds, etc.) is intended as a guide and a myriad of factors must be assessed when establishing a BWC. The declaring authority will utilize his/her expertise and best judgment to make the decision. If doubt exists as to the severity of the hazard, the declaration will be made for the worst case.

4.2.1. **BWC LOW:** Normal bird activity on and above the airfield with a low probability of hazard. No flight restrictions apply.

4.2.2. **BWC MODERATE:** Concentrations of 5 to 10 large birds (waterfowl, raptors, gulls, etc.) or 10 to 30 small birds (terns, swallows, etc.) observable on locations that represent a probable hazard to safe flying operations. Flight restrictions apply from paragraph 4.4.2.

4.2.3. **BWC SEVERE:** Heavy concentrations of birds (more than 10 large birds or 30 small birds) on or above the runway, taxiways, in field areas, or departures or arrival routes. Flight restrictions apply from paragraph 4.4.2.

4.2.4. **BIRD WATCH Alert:** Weather, time of day, and seasonal conditions are such as to expect a hazardous influx of birds onto the airfield. A Bird Watch Alert should be issued in lieu of a Bird Watch Condition whenever the certainty of expected/potential

bird activity is not high enough to warrant altering flight operations. For example, conditions such as migratory periods and mowing operations, among others, have historically produced hazardous levels of bird activity, especially when experienced in combination. When a BWC of MODERATE or SEVERE is declared, there is no longer a need to announce a Bird Watch Alert.

4.3. Authority. The authority to declare a BWC is vested with Airfield Management (6 OSS/OSAA), the Wildlife Control contractor (6 AMW/SEFB), or Tower (6 OSS/OSAT). Aircrews, Safety, Aircraft Maintenance, Security Forces, and Airfield Maintenance personnel will inform Airfield Management Operations, 6 OSS/OSAT, or Command Post if significant bird activity is observed. When 6 OSS/OSAA, 6 AMW/SEFB, or 6 OSS/OSAT determines that bird dispersal is required, Airfield Management or 6 AMW/SEFB will respond immediately and will complete all documentation after tasking.

4.3.1. Downgrading: Once BWC MODERATE has been declared, only 6 OSS/OSAA, 6 OSS/OSAT, or 6 AMW/SEFB may cancel or downgrade. Upon the declaration of BWC SEVERE, downgrade authority is solely vested in 6 OG/CC or 927 OG/CC to condition commensurate with latest information.

4.4. BWC Phase Operating Restrictions.

4.4.1. Phase Periods.

4.4.1.1. Phase I Operations. (Typically 1 March-31 October): No restrictions. Migratory Periods: Fall (15 October-15 November) and spring (15 March-15 April) migration periods will be mitigated by entering BW Alert when migration cycles are observed. Bird movement occurs all day long but is likely to increase during the hour before and after sunrise and sunset. Changes from the BW Alert to a BWC will be declared by 6 OSS/OSAA, 6 OSS/OSAT or 6 AMW/SEFB. The BWC will be declared as conditions warrant and will be based on the location, number, and size of the birds.

4.4.1.2. Phase II Operations (Typically 1 November-28 February): During Phase II operations, the BASH posture will be BW Alert. Although BW Alert will be in affect 24 hours a day during Phase II operations, particular attention should be given to the hour before and after sunrise and sunset due to bird feeding times and during mid-day hours from 0900-1500 due to the soaring bird threat. The declaration of a BWC will carry the operational limitations associated with the BWC. Crews will ensure vigilance and proper coordination prior to operations in a declared BWC window. **Note:** Phase II Operations is a scheduling requirement. If a mission in execution returns during the BASH window, they will make their approach based on the current BWC.

4.4.2. Flight Restrictions. The following flight restrictions for airfield operations will be imposed during BWC MODERATE and SEVERE.

4.4.2.1. MODERATE: Requires increased vigilance by all agencies and extra caution by aircrews.

4.4.2.1.1. Initial takeoffs and final landings allowed only when departure and arrival routes avoid identified bird activity.

4.4.2.1.2. Local IFR/VFR traffic pattern activity ceases.

4.4.2.2. SEVERE: Requires total vigilance by all agencies and extreme caution by aircrews.

4.4.2.2.1. Takeoffs and landings are prohibited without 6 OG/CC (or higher) approval.

5. Depredation. Personnel performing depredation must be trained and follow all prescribed procedures to ensure safe operations. All other methods of dispersal must be exhausted prior to commencing depredation operations.

5.1. Location: Depredation operations will be conducted only in designated areas. The area of operation is designated as perimeter road to the north (due to the close proximity of a roadway, weapons must only be fired towards the airfield in this area at all times, no exceptions), to the end of the 04 approach lighting pier to the south. The western boundary is the tree line. The eastern boundary is approximately 200 feet east of taxiway "Golf". Additionally, the entire wetland area east of "Golf" taxiway, between "Hotel" and "Kilo" taxiways, will be included as a designated area.

5.2. Requirements: Personnel will attend shotgun and bird identification training prior to being authorized to perform depredation operations. Weapons safety is paramount and must be practiced at all times. Any observed safety violation or depredation of a protected species would result in immediate revocation of depredation privileges.

5.3. Authorization: Only qualified personnel from Airfield Management Operations, 6 AMW/SEFB, and Wing Safety will be authorized to perform depredation operations on MacDill AFB. The names of qualified personnel with current training dates will be tracked on a locally developed form at base operations. A copy of this list will be attached to the depredation permit for reference.

5.4. Procedures: The following procedures have been set up to comply with regulatory standards and to provide safe operations. By following these procedures, the possibility of a mishap or depredation of a protected species will be greatly reduced.

5.4.1. Prior to beginning depredation operations, the individual must submit a verbal request to the following agencies:

5.4.1.1. AMOPS (Commercial 813-828-2321; DSN 968-2321).

5.4.1.2. Tower (Commercial 813-828-2120; DSN 968-2120).

5.4.1.3. Security Forces (Commercial 813-828-3322; DSN 968-3322).

5.4.2. AMOPS, Tower, and Security Forces will confirm no conflict exists and it is safe to conduct depredation operations on the airfield. The individual will again notify the above agencies at the completion of depredation operations.

5.4.2.1. Individuals performing depredation must carry a copy of the weapons and depredation permit during operations to comply with federal regulations.

5.4.2.2. Personnel will wear appropriate eye and ear protection while performing depredation operations.

5.4.2.3. Wildlife species on the United States or Florida State Threatened or Endangered List must not be taken for any reason. If you are unsure of the species, do not depredate it. If a threatened or endangered species is taken accidentally, report it immediately to 6 AMW/SE and 6 CES/CEVN. Do not dispose of the remains until instructed to do so.

5.4.2.4. The use of blinds, pits, or other means of concealment, decoys, calls, or other devices used to lure or entice birds is strictly prohibited and will not be utilized.

5.4.2.5. Taking birds will be by 12 gauge shotgun fired from the shoulder only with shot no larger than No. 7 1/2.

5.4.2.6. Personnel must be in radio contact with Tower at all times while depredation operations are in progress. All depredation actions must cease immediately upon any aircraft activity within 1000 yards on the ground or upon any aircraft entering final approach patterns.

5.4.2.7. Personnel must be aware of their surroundings at all times. A spotter should be used to increase vigilance during operations. Do not shoot directly towards any personnel at any time. Additionally, do not shoot towards buildings or airfield equipment if it is located within 100 yards of your position or towards aircraft within 1000 yards.

5.4.2.8. Personnel will position themselves between the runway and the birds whenever possible during depredation to provide the maximum dispersal effectiveness.

5.4.3. Tracking and Disposal: The numbers of birds taken is a critical factor in conservation and must be tracked accordingly. State and federal agencies use these numbers to determine how many birds were taken in a region and may limit the allowed take to prevent over-depredating the species. Proper disposal is an equally important issue. Improper disposal has the possibility of spreading disease as well as acting as an attractor to other birds or other scavengers.

5.4.3.1. Tracking will be by species on a locally created form. Information the form must contain is 1) the date birds were taken, 2) the species of the birds taken, and 3) the number of each species. These forms will be turned in quarterly to Wing Flight Safety (6 AMW/SEF). Flight Safety will then compile the total numbers and report these to 6 CES/CEVN.

5.4.3.2. Birds taken must be disposed of by burial. Carcasses must be buried in the wooded areas off the airfield and covered by at least 6 inches of dirt when level with ground. Use a new burial location each time to minimize any effects at any single location. Periodically, review recent burial sites to see if other animals have disturbed them. If there is evidence of this, increase the amount of dirt covering the carcasses to at least 12 inches on subsequent burials.

6. Non-MacDill AFB Located Units. Non-MacDill located units will notify Tower of any bird strikes that occur in the MacDill AFB traffic pattern. Their respective Safety office will coordinate with the 6 AMW/SEF or 6 AMW/SEFB for coordination of remains collection and investigation as necessary.

LENNY J. RICHOUX, Colonel, USAF
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 11-2KC-135V3_MACDILLAFBSUP, *C/KC-135 Operations Procedures*, 27 July 2009
AFI 91-202, *The US Air Force Mishap Prevention Program*, 1 August 1998
AFI 91-202_AMCSUP, *The US Air Force Mishap Prevention Program*, 31 August 2004
AFI 91-204, *Safety Investigations and Reports*, 24 September 2008
AFMAN 33-363, *Management of Records*, 1 March 2008
AFPAM 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Techniques*, 1 February 2004

Forms Adopted

AF Form 847, *Recommendation for Change of Publication*, 22 October 2011
AF Form 853, *Air Force Wildlife Strike Report*, 15 Oct 2005

Abbreviations and Acronyms

6 AMW—6th Air Mobility Wing
6 AMXS/MXAS—6th Aircraft Maintenance Squadron, Debrief Section
6 CES—6th Civil Engineer Squadron
6 MOS/MOC—6th Maintenance Operations Squadron, Operations Center
6 MXG/MXQ—6th Maintenance Group, Quality Assurance
6 OG—6th Operations Group
6 OSS—6th Operations Support Squadron,
6 SFS—6th Security Forces Squadron
91 ARS—91st Air Refueling Squadron, Flight Safety
310 AS—310th Airlift Squadron, Flight Safety
927 ARW—927th Air Refueling Wing
927 OG—927th Operations Group
AF—Air Force
AFB—Air Force Base
AFI—Air Force Instruction
AFMAN—Air Force Manual
AFPAM—Air Force Pamphlet
AFSAS—Air Force Safety Automated System

AFSC—Air Force Safety Center
AGL—Above Ground Level
AHAS—Avian Hazard Advisory System
AMC/A3—Air Mobility Command, Directorate of Operations
ASR—Airfield Surveillance Radar
ATC—Air Traffic Control
ATIS—Airport Terminal Information System
BASH—Bird Aircraft Strike Hazard
BHWG—Bird Hazard Working Group
BWC—Bird Watch Condition
CBZ—Controlled Bash Zone
CC—Commander
CEOH—Equipment Flight
CEOHHE—Pest Management QAE
CEQ—Quality Assurance
CEVN—Civil Engineering Natural Resources Manager
CEV—Civil Engineering Management
CP—Command Post
CV—Vice Commander
CZ—Clear Zone
DER—Departure End of Runway
DoD—Department of Defense
EPA—Environmental Protection Agency
FAA—Federal Aviation Administration
FAX—Facsimile
FSO—Flight Safety Officer
IFR—Instrument Flight Rules
IMC—Instrument Meteorological Conditions
MOA—Military Operating Area
NOTAM—Notice to Airmen
OGV—Standardization and Evaluation
OPREP—3—Operational Report 3

OPR—Office of Primary Responsibility
ORM—Operational Risk Management
OSAA—Airfield Manager
OSAT—Air Traffic Control Tower
OSOS—Flight Scheduling
OST—Operations Training
PA—Public Affairs
QAE—Quality Assurance Evaluator
RAPCON—Radar Approach Control
RDS—Records Disposition Schedule
SEFB—Wildlife Control Contractor
SEF—Flight Safety
SE—Wing Safety
TDY—Temporary Duty
VFR—Visual Flight Rules
VMC—Visual Meteorological Conditions

Attachment 2

BASH INSPECTION AREAS

A2.1. Area A: This is the most critical area for aircraft operations and is defined as the runway area from the clear zone (CZ) of Runway 04 through the CZ of Runway 22, to include the area 1500 feet to the left and right of the runway. The 1500-foot area on the tower side of the runway extends to the tree line.

A2.2. Area B: This area is defined as the remainder of the airfield and includes all taxiways, parking apron, refueling pits, infield areas, departure and arrival routes, and all remaining areas on the airfield. Active bird removal from these areas is paramount when bird activity is low in Area A.

A2.3. Area C: This area includes all hangars and buildings on the airfield perimeter. BASH personnel will work in cooperation with the building owning agencies to help prevent a continual bird presence in and around these areas. **Note:** For large numbers of birds, BASH activities will be prioritized based on area. It is important to emphasize that, although birds may have moved away from a critical area (Area A) into a less critical area (B or C), continued vigilance is required. Birds can quickly nest in certain areas, so continual harassment is needed.

Figure A2.1. BASH Inspection Areas

